

***Remarks***

Upon entry of the foregoing amendment, claims 1-4, 7-11, 14-16, 19-23, and 26-27 are pending in the application, with 1, 8, 15, and 20 being the independent claims. Claims 1-4, 7-9, 11, 14-15, 16, 20-23, and 26 are sought to be amended. Claims 5-6, 12-13, 17-18 and 24-25 were previously cancelled. These changes are believed to introduce no new matter, and their entry is respectfully requested.

Based on the above amendments and the following remarks, Applicant respectfully requests that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

***Rejections under 35 U.S.C. § 103***

**Claims 1-4, 7-11, 14, 20-23, and 26**

Claims 1-4, 7-11, 14, 20-23, and 26 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable by U.S. Patent Application Publication No. 2001/0012783 to Peeters *et al.* ("Peeters") in view of U.S. Patent Application Publication No. 2002/0039398 to Klinski ("Klinski"). Applicant respectfully traverses this rejection.

The combination of Peeters and Klinski does not teach or suggest all of the features of independent claims 1, 8, and 20, as amended, at least for the following reasons.

First, independent claims 1, 8, and 20, as amended, require that *the plurality of carriergroup parameters comprising a carriergroup gain parameter be used to dynamically set up a tone decoder* in a modem, or similar language. This feature is not taught by the combination of Peeters and Klinski. Therefore, Applicant respectfully requests that the rejection be withdrawn.

The Examiner, on page 4 of the Office Action, asserts that Peeters fails to disclose a tone decoder configured to be coupled to the transmission channel and wherein the at least

one carriergroup parameter is used to set up the tone decoder. Further, the Examiner, on page 4 of the Office Action, relies on Klinski to allegedly show this feature. Applicant respectfully disagrees and asserts that the combination of Peeters and Klinski does not teach or suggest the above-mentioned features of claims 1, 8, and 20, as amended.

Klinski only teaches bit allocation as a parameter that the coder and the decoder use to code and decode data, in contrast independent claims 1, 8, and 20, require that *the plurality of carriergroup parameters comprising a carriergroup gain parameter be used to dynamically set up a tone decoder*, or similar language. Klinski teaches an apparatus and method for dynamic bit allocation for line-connected multicarrier systems (Klinski Abstract). Figure 2 of Klinski discloses a coder stage (11) connected to a bit loading table (15) at a transmitter and a decoder stage (19) connected to a bit allocation table (9) in a receiver. Coding and decoding is a function a the bit allocation tables (Klinski Para. 0037, lines 3-4 and Para. 30, lines 20-22). Moreover, Klinski discloses that the bit allocation tables (9 and 15) are adapted and new bit allocation for respective coder stage and decoder stage is reported both to the transmitter and to the receiver (Klinski Para. 0039, lines 25-30). Therefore, Klinski only teaches bit allocation as the parameter that the coder and the decoder use to code and decode data. In contrast, independent claims 1, 8, and 20, require that *the plurality of carriergroup parameters comprising a carriergroup gain parameter be used to dynamically set up a tone decoder*, or similar language.

Second, independent claims 1, 8, and 20 require that the carrier groups are of *dynamically variable size*. This feature is not taught by Peeters. Therefore, Applicant respectfully requests that the rejection be withdrawn.

Peeters teaches that transmitting and computing bits and gains information (but not every operation such as grouping of the carriers) may be applied at initialization or alternatively during operation to ***adapt carrier constellations*** (bits and gains information)

according to changes to channel characteristics (Peeters Para. 0023). Therefore, the method of Peeters that the **constellation information** (which is the bits and gains information, and does not include the description of the carrier subsets) maybe computed and transmitted during the operation to adapt to changes is not the same as "dynamically variable size carrier group" as recited in claims 1, 8, and 20 wherein the carrier group size may dynamically change to adapt to changes.

Dependent claims 2-4, 7, 9-11, 14, 21-23, and 26 are not anticipated by the combination of Peeters and Klinski for at least the same reasons as the independent claims from which they respectively depend, and further in view of their own respective features.

For at least these reasons, it is respectfully requested that this rejections of claims 1-4, 7, 8-11, 14, 20-23, and 26 be withdrawn.

**Claims 15, 16, 19, and 27**

Claims 15, 16, 19, and 27 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable by U.S. Patent Application Publication No. 2001/0012783 to Peeters *et al.* ("Peeters") in view of U.S. Patent Application Publication No. 2004/0081191 to Kwon *et al.* ("Kwon"). Applicant respectfully traverses this rejection.

The combination of Peeters and Kwon does not teach or suggest all of the features of independent claim 15, as amended, at least for the following reasons.

First, independent claim 15, as amended, requires *using the carriergroup bitloading and the carriergroup gain for the at least one carriergroup for dynamically setting up a tone decoder in the near end modem*. This feature is not taught by the combination of Peeters and Kwon. Therefore, Applicant respectfully requests that the rejection be withdrawn.

The Examiner, on page 14 of the Office Action, asserts that Peeters fails to disclose using the carriergroup bitloading and the carriergroup gain for the at least one carriergroup for setting up a tone decoder in the near end modem. Further, the Examiner, on page 14 of

the Office Action, relies on Kwon to allegedly show this feature. Applicant respectfully disagrees and asserts that the combination of Peeters and Kwon does not teach or suggest the above-mentioned features of claim 15, as amended.

Kwon only transmits the bit loading information during the initialization. In contrast, independent claim 15, requires *using the carriergroup bitloading and the carriergroup gain for the at least one carriergroup for dynamically setting up a tone decoder in the near end modem.*

Kwon teaches a method for recognizing stations in a home network of an OFDM scheme. In this method, a QAM decoder performs an M-ray demapping by using same bit loading information as one of the transmitting terminal and decodes data (Kwon Para. 0040, lines 3-6). This bitloading information includes bit and gain information (Kwon Para. 0014, lines 8-9). But Kwon teaches that the bit loading information is transmitted between the transmitter and the receiver only during the initialization. Kwon's FIG. 7 shows the initialization of a link between the starting station and the destination station (Kwon Para. 0045). The receiving terminal constructs the reserve link initialization frame, which can transmit the bit loading information and transmits the reverse link initialization frame. Therefore, the method of Kwon only transmits the bit loading information during the initialization. In contrast, independent claim 15, requires *using the carriergroup bitloading and the carriergroup gain for the at least one carriergroup for dynamically setting up a tone decoder in the near end modem.*

Second, independent claim 15 require that the carrier groups are of *dynamically variable size*. As discussed above with respect to independent claims 1, 8, and 20, this feature is not taught by Peeters. Therefore, Applicant respectfully requests that the rejection be withdrawn.

Dependent claims 16, 19, and 27 are not anticipated by the combination of Peeters and Kwon for at least the same reasons as the independent claim from which they depend, and further in view of their own respective features.

For at least these reasons, it is respectfully requested that this rejections of claims 15, 16, 19, and 27 be withdrawn.


### ***Conclusion***

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. Applicant believes that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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